



KS4 Physics – Year 9

	Key content (knowledge)	Key skills	Assessments	Challenge and enrichment
Autumn half term 1	Energy stores and transfers Kinetic and gravitational potential energy calculations Elastic potential energy	Using and rearranging equations Practical skills: following instructions	Low stakes equation test	Explore the Physics of rollercoasters: Roller Coaster Physics HowStuffWorks The Physics of Roller Coasters (travelandleisure.com) Find out why elastic potential energy is important: Elastic Potential Energy: Explained (academichelp.net) Equating ideas about kinetic and potential energy.
Autumn half term 2	Reducing unwanted energy transfers and efficiency Particle model and states of matter Density Internal energy	Using and rearranging equations Practical skills: required practical on measuring density.	End of energy topic test	Find out who Archimedes was and what his principle is: Archimedes' principle Description & Facts Britannica Devise different methods for finding density of materials

Spring half term 1	Conduction Radiation Insulation	Practical skills: required practical investigating insulating materials. Practical skills: investigating radiation from different surfaces.	Low stakes equation tests	Research different insulating materials for the home. Why Insulation Is Important for Houses? - Energy Advice Helpline Link to ideas about climate change. Explore why specific heat capacity is important to life: Why is the High Specific Heat of Water Important for Life on Earth? (studysmarter.co.uk)
Spring half term 2	Specific heat capacity Specific latent heat Gas pressure, temperature and volume	Practical skills: required practical in finding specific heat capacity. Using and rearranging equations. Research skills		Find out about different temperature scales Temperature Scales (nasa.gov)
Summer half term 1	Energy resources	Research and presentation skills	End of topic test on particle model and thermal energy	Read about the future of energy resources What the Future of Renewable Energy Looks Like Earth.Org

Summer half term 2	Energy resources	Practical skills: setting up circuits. Problem solving Practical skills: required practical investigating how length of a wire affects resistance.	End of year exam	Read about the future of energy resources What the Future of Renewable Energy Looks Like Earth.Org
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